

IN THE CLAIMS:

The pending claims are set forth below and have been amended and/or cancelled, without prejudice, where noted:

1. (Cancelled)
2. (Currently Amended) The method of claim 1 37, where the copolymerized product has a melt flow index (MFI) ranging from about 2 to about 7.
3. (Cancelled)
4. (Currently Amended) The method of claim 1 37, where in copolymerizing the monomer, the vinylaromatic monomer is styrene.
5. (Currently Amended) The method of claim 1 37, where in copolymerizing the monomer, the multifunctional initiator is selected from the group consisting of tri- or tetrakis t-alkylperoxycarbonates, tri- or tetrakis (polyether peroxycarbonate), tri- or tetrakis-(t-butylperoxycarbonyloxy) methane, tri- or tetrakis-(t-butylperoxycarbonyloxy) butane, tri- or tetrakis (t-amylperoxycarbonyloxy) butane and tri- or tetrakis (t-C<sub>4-6</sub> alkyl monoperoxycarbonates), and mixtures thereof.
6. (Currently Amended) The method of claim 1 37, where the copolymerized product is more highly branched as compared with a polymerized product made by an otherwise identical method except that a multifunctional initiator replaces at least a portion of a difunctional initiator.
7. (Currently Amended) The method of claim 1 37, where the multifunctional initiator is present in an amount ranging from about 50 to about 1200 ppm, based on the vinylaromatic monomer.

8. (Currently Amended) The method of claim ~~1~~ 37, where in copolymerizing the monomer, the polymerizing is conducted at a temperature between about 110°C and about 180°C.
9. (Currently Amended) The method of claim ~~1~~ 37, where the weight ratio of vinylaromatic monomer to diene polymer ranges from about 97:3 to about 85:15.
10. (Currently Amended) The method of claim ~~1~~ 37, where in recovering the product, the copolymerized product is high impact polystyrene (HIPS).
11. (Currently Amended) The method of claim ~~1~~ 37, where the polymerization rate ranges from about 2 to 7 times that of styrene polymerized thermally in the absence of initiator.
12. (Currently Amended) The method of claim ~~1~~ 37, where the polydispersity of the copolymerized product ranges from about 2.3 to about 4.0.
13. (Cancelled)
14. (Currently Amended) The copolymerized product of claim ~~13~~ 38, where the copolymerized product has a melt flow index (MFI) ranging from about 2 to about 7.
15. (Cancelled)
16. (Currently Amended) The copolymerized product of claim ~~13~~ 38, where in copolymerizing the monomer, the vinylaromatic monomer is styrene.
17. (Currently Amended) The copolymerized product of claim ~~13~~ 38, where in copolymerizing the monomer, the multifunctional initiator is selected from the group consisting of tri- or tetrakis t-alkylperoxycarbonates, tri- or tetrakis (polyether peroxycarbonate), tri- or tetrakis-(t-butylperoxycarbonyloxy) methane, tri- or tetrakis-(t-

butylperoxycarbonyloxy) butane, tri- or tetrakis (t-amylperoxycarbonyloxy) butane and tri- or tetrakis (t-C<sub>4-6</sub> alkyl monoperoxycarbonates), and mixtures thereof.

18. (Currently Amended) The copolymerized product of claim ~~13~~ 38, where in recovering the copolymerized product, the product is more highly branched as compared with a polymerized product made by an otherwise identical method except that a multifunctional initiator replaces at least a portion of a difunctional initiator.

19. (Currently Amended) The copolymerized product of claim ~~13~~ 38, where in the copolymerizing the multifunctional initiator is present in an amount ranging from about 50 to about 1200 ppm, based on the vinylaromatic monomer.

20. (Currently Amended) The copolymerized product of claim ~~13~~ 38, where in the copolymerizing the polymerization rate ranges from about 2 to 7 times that of styrene polymerized thermally in the absence of initiator.

21. (Currently Amended) The copolymerized product of claim ~~13~~ 38, where the polydispersity of the copolymerized product ranges from about 2.3 to about 4.0.

22. (Currently Amended) The copolymerized product of claim ~~13~~ 38, where in copolymerizing the monomer, the polymerizing is conducted at a temperature between about 110°C and about 180°C.

23. (Currently Amended) The copolymerized product of claim ~~13~~ 38, where in copolymerizing the monomer, the weight ratio of vinylaromatic monomer to diene polymer ranges from about 97:3 to about 85:15.

24. (Currently Amended) The copolymerized product of claim ~~13~~ 38, where in recovering the product, the polymerized product is high impact polystyrene (HIPS).

25. (Currently Amended) An article made with the vinylaromatic/diene graft copolymer of claim ~~43~~ 38.

26. (Cancelled)

27. (Currently Amended) The resin of claim 26 39, where the amount of multifunctional initiator is sufficient to polymerize the vinylaromatic monomer at a rate of from about 2 to 7 times that of styrene polymerized thermally in the absence of initiator.

28. (Currently Amended) The resin of claim 26 39, where the amount of multifunctional initiator is sufficient to produce a copolymerized product having a polydispersity ranging from about 2.3 to about 4.0.

29. (Currently Amended) The resin of claim 26 39, where the amount of multifunctional initiator is sufficient to produce a copolymerized product that has a melt flow index (MFI) ranging from about 2 to about 7.

30. (Cancelled)

31. (Currently Amended) The resin of claim 26 39, where the vinylaromatic monomer is styrene.

32. (Currently Amended) The resin of claim 26 39, where the multifunctional initiator is selected from the group consisting of tri- or tetrakis t-alkylperoxycarbonates, tri- or tetrakis (polyether peroxycarbonate), tri- or tetrakis-(t-butylperoxycarbonyloxy) methane, tri- or tetrakis-(t-butylperoxycarbonyloxy) butane, tri- or tetrakis (t-amylperoxycarbonyloxy) butane and tri- or tetrakis (t-C<sub>4-6</sub> alkyl monoperoxycarbonates), and mixtures thereof.

33. (Currently Amended) The resin of claim 26 39, where the copolymerized product made therefrom is more highly branched as compared with a polymerized product made by an otherwise identical method except that a multifunctional initiator replaces at least a portion of a difunctional initiator.

34. (Currently Amended) The resin of claim 26 39, where in the multifunctional initiator is present in an amount ranging from about 50 to about 1200 ppm, based on the vinylaromatic monomer.

35. (Currently Amended) The resin of claim 26 39, where the weight ratio of vinylaromatic monomer to diene polymer ranges from about 97:3 to about 85:15.

36. (Currently Amended) An article made from the resin of claim 26 39.

Please add the following new claims:

37. (New) A method for producing an improved copolymerized product comprising:  
copolymerizing at least one vinylaromatic monomer with at least one diene polymer in the presence of at least one multifunctional initiator selected from the group consisting of trifunctional and tetrafunctional peroxides, and  
recovering a copolymerized product that has a ratio of % gel to % rubber (G/R) that increases from about 1 to about 4 as swell index increases from about 8 to about 20.

38. (New) An improved copolymerized product made by the process comprising:  
copolymerizing at least one vinylaromatic monomer with at least one diene polymer in the presence of at least one multifunctional initiator selected from the group consisting of trifunctional and tetrafunctional peroxides, and  
recovering a copolymerized product that has a ratio of % gel to % rubber (G/R) that increases from about 1 to about 4 as swell index increases from about 8 to about 20.

39. (New) A resin comprising:  
at least one vinylaromatic monomer;

at least one dicne polymer; and

at least one multifunctional initiator selected from the group consisting of trifunctional and tetrafunctional peroxides, where the amount of multifunctional initiator is sufficient to produce a copolymerized product that has a % gel to % rubber (G/R) ratio that increases from about 1 to about 4 as swell index increases from about 8 to about 20.